

Regional Inequality; Why It Matters, Why it Occurs and How It Might Be Addressed

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Executive Summary

Regional inequality is generally taken to refer to spatially distributed disparities in spending capacity, ability to consume non-public services, access to public services, and ability to consume natural resources. Despite being a topical matter in the international literature there is a dearth of analysis in an Australian context. We outline a number of metrics that can provide us with a sense of how grave the inequality situation in Australia has become. Following this we analyse the sources of inequality with a particular emphasis on government policy and institutions. This leads us to propose a number of innovative policy changes that could address the problem, given sufficient political will. In particular, we call for the introduction of equality statements for all major policy and institutional changes, to provide a counterweight to the business case methodologies that currently inform most political decision-making.

There is a long history of scholarship on the matter of inequality. Most of the emphasis has previously been placed on inequality at the level of nation states, although recently prominent scholars have started to pay greater attention to inequality, at the regional level, that falls within nation states (Wei, 2015; Sellers et al., 2017; Stiglitz, 2013). One explanation for the recent surge in interest, with respect to regional inequality, stems from the perception that inequality was exacerbated as a result of government responses to the Global Financial Crisis (and there is certainly a good deal of evidence, from abroad, to suggest that this was indeed the case for income and wealth equality). Another explanation seems to be that interest has increased in response to high-profile evidence of social unrest precipitated in large part as a result of inequality (for instance the Occupy Wall Street movement and the Arab Spring; Stiglitz, 2013). However, in contrast to increasing levels of attention by scholars abroad, there is a veritable dearth of analysis in the context of Australia. This is despite the fact that there is some extant evidence of relatively high levels of both income inequality and wealth inequality (ABS, 2018 – see below).

Regional inequality is generally taken to refer to spatially distributed capacities to consume public and market goods, natural resources, and spending capacity (Sellers et al., 2017). Most of the existing body of literature focusses on economic measures of inequality – particularly inequality of incomes, or at a national level, inequality of gross domestic product. These measures provide us with some sense of equality of outcomes (although some would assert that equality of outcomes need to be measured over lifetimes, rather than at particular discrete

moments in time), which are largely contingent on equality of opportunity (there is some reason to suppose that inequality of outcomes is mostly a symptom of inequality of opportunity; Stiglitz, 2013). Indeed, it is probably best to mostly focus on inequality of income as an indicator of inequality of opportunity given that it is not entirely clear that the former is either possible or desirable (as an end in itself) in a capitalist society. Arguably there should be different outcomes to reward effort, risk, and skills – to remove these variations in outcomes would be unjust (in a Natural Law sense; Messner, 1952) and would probably destroy the incentives that make most modern economies work. Instead, what would seem most important is to ensure equality of opportunity (certainly as a justice measure, in a Natural Law sense, but also for the efficient operation of the national economy) and this will be our primary focus.

It is important to note that some dimensions of spatial equality exist prior to government, that other dimensions are amenable to mitigation through public policy, whilst yet others are the result of public policy. Take, for instance, the ability to consume natural resources. Initial resource endowments – such as fresh water – are largely given to us as a relatively fixed feature of geography; however lack of water can be mitigated by public spending (by building dams and other water infrastructure) or can be exacerbated as a consequence of restricting access to natural endowments (for example, the Murray-Darling water management scheme). In this regard, the term coined by Sellers et al. (2017, p. 9) – ‘regimes of place equality’ – is particularly useful as it draws attention to how ‘policies, governance strategies and institutions...either contribute to disparities in taxes, spending capacities and public services across...regions or mitigate or compensates for those disparities’. At the heart of their thesis is the assertion that inequality is not some sort of accident, but is largely the result of policies and institutions acting over long periods of time (see also, North, 1991). Otherwise stated ‘government sets and enforces the rules of the game...gives away resources...and through taxes and social expenditure, modifies the distribution of income...[and] alters the dynamics of wealth’ (Stiglitz, 2013, p. 38). Our focus will be on explicating how policies and institutions, mediated through political interactions, impact on equality in Australia.

Generally research, both in Australia and abroad, has been focussed on inequality between urban regions – particularly with respect to the urban fringe – because this is where most people, and notably most scholars, reside (see, Sellers et al. 2017). Moreover, political interest has also focussed mainly on the urban fringe ‘as outer electorate suburbs make or break governments’ (Beer, 1994, p. 183). However, there is probably greater inequality in rural and regional areas in Australia. For instance, where the lead author resides on the North-Western slopes, most properties do not have access to running water, sewer service, or sealed roads. In addition access to basic services such as education, law enforcement, mail services, and health requires one to travel considerable distances. (indeed, one could be mistaken for thinking that the author lives in a third world country, rather than the electorate of the former Deputy Prime Minister), which isn’t the case for even the most deprived urban fringe resident (although waiting times or service standards may be deemed by some to be less than

satisfactory). To address this neglect in the literature we have taken a broad view of regional equality that specifically considers rural and remote areas.

This paper seeks to cast light on inequality in Australia and propose innovative and efficacious solutions to the problem. In the next section we review some measures of income and wealth inequality which, as we note, are good indicators of broader inequality of opportunity. Thereafter, we detail some of the reasons why inequality matters. Following this we review, in greater detail, the source of inequality. We conclude by detailing some efficacious and innovative public policy interventions which might be expected to arrest and reduce levels of inequality in Australia.

Indicators of Inequality

The most robust and accessible indicators of inequality are those pertaining to income and wealth. As noted in the introduction these indicators do not directly relate to equality of outcomes, although there is good reason to suspect that equality of opportunity is positively and strongly associated with equality of outcomes (Stiglitz, 2013). This is because income and wealth are tied closely to political power which is the medium through which many institutions, and hence opportunities, are distributed (Acemoglou et al. 2002).

Table 1 presents the Gini coefficients for twenty-six OECD nations in 2015 (all nations for which data was available in 2015 are included). The Gini coefficient is the area between a line of perfect equality and the Lorenz curve (which measures the cumulative fraction of the indicator being measured after first arraying households from lowest to highest). Essentially, the Gini coefficient operates on a scale from 0 (perfect equality) through to 1 (perfect inequality). Otherwise stated if X% of households received X% of the income throughout the distribution, then the Gini coefficient would be 0 – however, if all the income went to the top household then the Gini coefficient would be 1. According to Stiglitz (2013, p. 28) ‘more equal societies have Gini coefficients of .3 or below’. By this criteria Australia is not an ‘equal society’ which probably stands in stark contrast to most people’s *perceptions* of our egalitarian nature. Moreover, when one looks at Table 1 it is clear that Australia generally does have a much higher level of inequality than most of the Nordic and former communist countries, in particular. There thus seems to be good grounds for asserting the need to introduce public policy remedies with respect to the matter of inequality.

Table 1. Income Inequality OECD Nations, 2015.

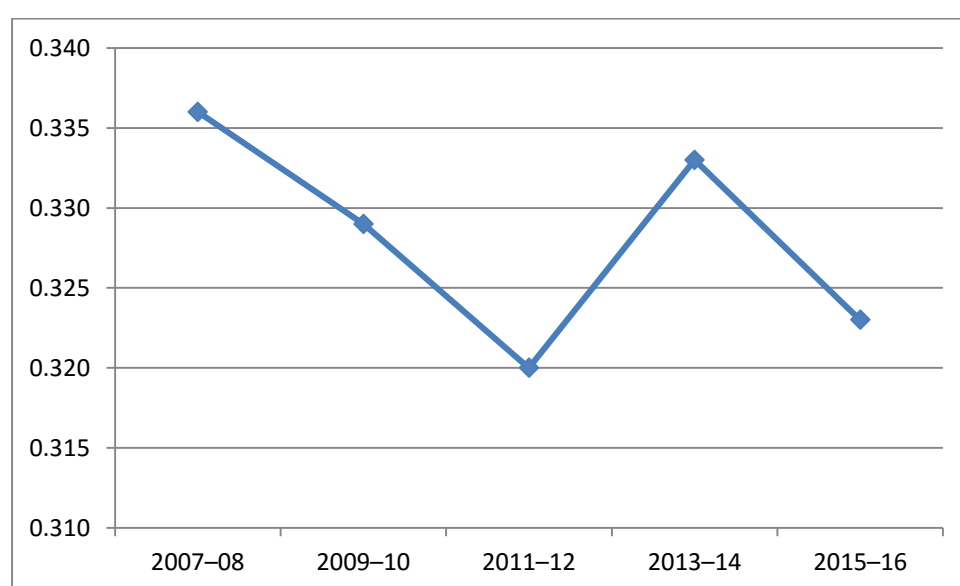
Countries with Low Inequality		Countries with High Inequality	
Slovenia	0.25	Portugal	0.34
Slovak Republic	0.25	Greece	0.34
Czech Republic	0.26	Spain	0.34
Finland	0.26	Latvia	0.35
Belgium	0.27	Israel	0.36
Norway	0.27	United Kingdom	0.36
Austria	0.28	Lithuania	0.37
Sweden	0.28	United States	0.39
Poland	0.29	Turkey	0.40
France	0.29	Chile	0.45
Korea	0.29	Costa Rica	0.48
Netherlands	0.30	South Africa	0.62
Estonia	0.33		
Canada	0.32		
AUSTRALIA ¹	0.337		

Source OECD 2018²

¹ 2014 figure – the 2015 figure is not available on the OECD site

Income inequality, of course, is not constant over time and in Australia it seems that there is a good deal of variation from year to year (see Figure 1). Unfortunately, due to a change in methodology income inequality statistics for Australia can only be reliably compared from 2007-08 onwards (although it can be noted that all of the years for which reliable comparative data is presented are above the 0.3 criteria for low inequality). However, it is clear that there is no downward *trend* that might give politicians comfort that inequality is reducing over time (indeed there is no statistically significant trend at all). Similarly the P80/20 ratio (which measures the ratio of households at the 80th percentile relative to households at the 20th percentile – thus eliminating outliers and giving a better picture of where most Australian households might sit) also shows a good deal of variation and no clear trend (see Figure 2.).

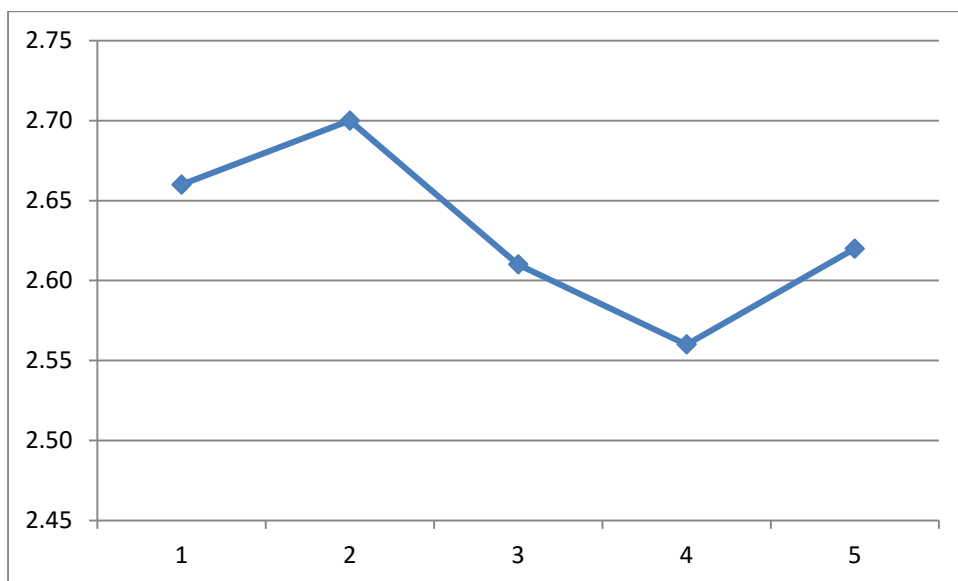
Figure 1. Income Gini Over Time, Australia



Source: Adapted from ABS 2018

² Consists of earnings, self-employment and capital income and public cash transfers; income taxes and social security contributions paid by households are deducted.

Figure 2. Income P80/20 Over Time, Australia



Source: Adapted from ABS 2018

Another way of thinking about inequality is to examine the disparity in nett worth of households over time. Here we are able to use a much longer panel of data and it is clear that inequality in household wealth is at, what can only be described as, alarming levels (if we consider data in terms of the commonly espoused rule of thumb that the most unequal societies have Gini coefficients greater than 0.5; see Figure 3). This observation is brought into stark relief by the P80/20 household nett worth, which illustrates a difference in worth of over 12.3 times between the two specified percentiles. Indeed the P80/20 metric (which has the important attribute of stripping out the outliers and thus giving a more reliable picture of most people's relative circumstances), suggests that the change in inequality has only occurred in one direction over the period – greater inequality.

Figure 3. Gini Household Nett Worth Over Time, Australia

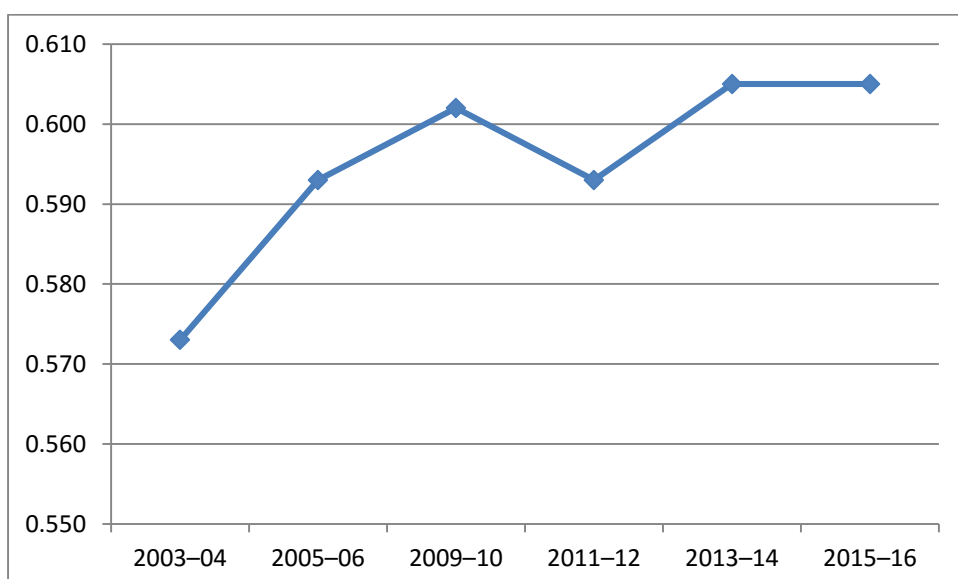
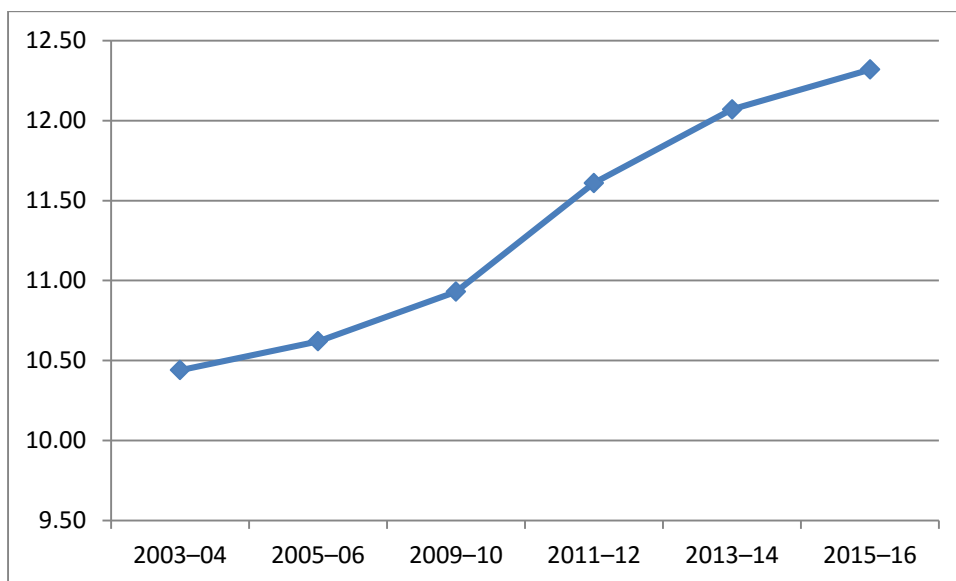


Figure 4. P80/20 Household Nett Worth Over Time, Australia



Source: Adapted from ABS 2018

It is also important to see if inequality is distributed evenly across the states and territories of Australia. Table 2 presents the Median and Mean wage, P80/20 ratio, Gini coefficient, and the proportion of income accrued by the top 1% and 10% of households for income in the eight states and territories of Australia. It is important to note that the Gini here excludes Government pensions, allowances and other transfers and comparison to the earlier cited Gini gives one a sense of how such transfers mitigate some of the income inequality in the nation. Table 2 suggests that households in the territories typically have higher incomes, and less inequality which stands in contrast to their state peers. This demonstrates that inequality is spatially distributed at the level of states and territories in Australia. Moreover, an examination of the same data at a 'capital city and rest' statistical level suggests that inequality is also distributed spatially *within* states. Table 3 presents data for each greater capital city and the rest of the state or territory to provide us with a sense of how income inequality manifests within these second tier governments. In each case typical wages are significantly higher in the capital cities (where the majority of institutions, political electorates and public servants are located), than for the rest of the state; however, inequality is mostly higher within 'rest of state' areas (especially when measured by the P80/20 ratio). This picture of inequality within Tier 2 governments is broadly consistent with the Tieboutian concept whereby persons are expected to sort themselves into more or less homogenous groups as they seek to match the tastes to the price that they are willing to pay (Grant and Drew, 2017). In Appendix A, we further disaggregate inequality data to the next regional level and in most cases the pattern holds (with notable exceptions for some mining and coastal regions).

Table 2. Income Inequality, Australian States and Territories, 2015

State/ Territory	Median	Mean	P80/P20	Gini	Top 1%	Top 10%
Australia	46,854	61,036	4.88	0.482	9.4	33.8
New South Wales	46,879	62,798	4.93	0.494	10.8	35.2
Victoria	45,930	59,019	4.70	0.476	9.5	33.5
Queensland	46,052	58,433	4.74	0.470	8.2	32.4
South Australia	45,445	55,586	4.45	0.452	7.9	31.1
Western Australia	52,989	70,354	5.11	0.481	8.7	33.5
Tasmania	43,067	51,517	4.54	0.446	7.3	30.1
Northern Territory	58,037	67,910	3.87	0.414	6.3	28.6
Australian Capital Territory	61,484	70,807	4.00	0.416	6.5	28.4
Other Territories	67,780	68,055	5.09	0.394	3.8	23.2

Table 3. Capital City and Other Region Inequality, 2015

Region	Median	Mean	P80/P20	Gini	Top 1%	Top 10%
Greater Sydney	49,571	67,806	4.81	0.499	11.7	36.5
Rest of NSW	42,445	52,933	5.19	0.472	7.4	31.4
Greater Melbourne	47,515	61,785	4.64	0.478	9.9	34.1
Rest of Vic.	41,382	50,116	4.93	0.461	7.0	30.6
Greater Brisbane	48,625	61,578	4.53	0.465	8.8	32.7
Rest of Qld	43,689	55,430	4.92	0.474	7.4	32.0
Greater Adelaide	46,581	57,028	4.32	0.449	8.2	31.2
Rest of SA	41,378	50,390	5.00	0.464	6.5	30.6
Greater Perth	53,640	71,472	5.01	0.482	9.1	34.0
Rest of WA	50,264	65,748	5.55	0.475	6.4	31.0
Greater Hobart	45,427	54,569	4.29	0.440	7.7	30.3
Rest of Tas.	41,208	49,015	4.74	0.450	6.9	29.9
Greater Darwin	60,572	71,185	3.74	0.412	6.5	28.9
Rest of NT	51,797	59,232	4.21	0.411	5.4	26.9
Australian Capital Territory	61,482	70,804	4.00	0.416	6.5	28.4
Other Territories	69,841	69,307	5.08	0.390	3.7	23.0

Source: ABS (2018)

In sum, relative to other nations Australia has modest levels of income inequality that would probably be a good deal worse except for the provision of government transfers. Incomes are typically higher in the ACT and capital cities, which are also the location for the bulk of Australia's institutions, political electorates, and public servants. As one moves out to the fringe incomes typically decrease, as does inequality (within the region) – suggesting that there is a degree of sorting involved in household location decisions. Rural areas typically have low incomes but mid-range levels of inequality that may be a consequence of rural estate legacies. In terms of wealth inequality, Australia has a disturbingly high Gini coefficient. Moreover the P80/20 ratio for nett household wealth shows that the trend has been ever upwards and that the difference between the two percentiles is a factor of over 12.3. As noted, robust and accessible statistics are not available for other aspects of inequality

(such as access to public goods, market goods and ability to consume natural endowments). However, it is not unreasonable to suggest that the spatial distribution of these dimensions will follow the spatial distribution of income and wealth because opportunity is associated with spending capacity and political power (Acemglou et al. 2002; Pike et al. 2007; Stiglitz, 2013) whilst economic theory predicts that house valuations (a large part of Australian's wealth) have imputed to them the standard and access of public services and some natural endowments (Ladd, 1998; Grant and Drew, 2017). Moreover, one should be mindful that access to many public goods and market goods on the urban fringe is within tolerable commuting range (and often accessible through public transport). Thus *prima facie* disparities between urban fringe and rural incomes, whilst being a reliable indicator of spending capacity, may fail to adequately convey disparities with respect to access to public goods (in particular) and market goods for these two groups.

We now examine, in greater detail why inequality matters in order to better explain the importance of the indicators of inequality that we have detailed above.

Why does Inequality Matter?

There are strong economic justifications for preferring greater regional equality given that it reduces inefficient migration of capital and labour (Oates, 1999) and migration of labour, in particular, has implications for the cost of providing infrastructure (Beer, 1994), and other costs associated with housing supply and affordability. In addition, regional equality is also critical to the health of federations given that it is associated with reductions to wasteful lobbying and less opportunities for pork barrelling (Drew and Campbell, 2016), binds the federation together (Boadway and Shah, 2009) and reduces political conflict (Lecours and Beland, 2013). However, as laudable as these economic and federation rationales are for regional equality, they fail to provide a persuasive moral justification for reducing regional inequality. It is only when we consider both the desirability of achieving equality of opportunity (which does have a ready moral justification in Natural Law³) *and* the fact that the infrastructure, natural resources and institutions required for same are spatially distributed, that it becomes clear that a certain degree of equality at the regional level is *indirectly* required for a just society. Otherwise stated, unless regions have largely similar levels of equality in terms of infrastructure, access to institutions, and ability to consume natural resources, then it is hard to see how any two similar persons living in two distinct regions might be able to have similar equality of opportunity (notably equality of opportunity will still depend on other factors (which we detail below), what we are simply asserting here is that regional equality seems to be a pre-requisite for equality of opportunity – see Drew and Dollery, 2015).

There are a number of other grounds for preferring lower levels of inequality between households, in a nation. For example, there is evidence that domestic market consumption is stronger where less inequality occurs, as are growth in small business (both of which arise from clearer definition of more homogenous markets) and economic growth more generally (although causality is an altogether more difficult matter to demonstrate; Biswas et al. 2017). Moreover, because a lot of inequality is caused by rent-seeking (an unproductive activity in which persons or businesses seek to receive surpluses that are greater than what might be received in a competitive market) and political capitalisation (turning hard capital into votes; Weingast et al. 1981; Drew and Dollery, 2017), inequality is economically inefficient (it also represents a sub-optimal use of human and natural resources). Indeed, it has been persuasively argued that inequality puts ‘democracy in peril’ (Stiglitz, 2013, p. 148) because if people perceive that inequality is being exacerbated by unequal voice and power then they will participate less in the political process, trust less in political leadership (and institutions and the media who report on same) and be more inclined to participate in civil disobedience (Stiglitz, 2013). The fact that only around 90 % of those who bother to register to vote actually turned out for the 2016 Federal election for nominally compulsory voting, and that a further 5% of those cast an informal vote, should alert the political class to the likelihood that

³ Specifically Natural Law provides a moral case for dignity (the inherent right of persons to pursue their existential ends), whilst fostering the common good (the help accruing to persons through co-operation) (Drew and Grant, 2017).

many Australian's are feeling (and becoming) politically disenfranchised⁴ (see, Tables 4 and 5).

Table 4. Measures of Voter Disillusionment 2016 Federal Election - Turnout

State/Territory	Enrolment	Turnout	Percentage Turnout
New South Wales	5084274	4651399	91.49
Victoria	3963992	3612823	91.14
Queensland	3074422	2802951	91.17
Western Australia	1577215	1394006	88.38
South Australia	1183004	1086171	91.81
Tasmania	373470	349549	93.59
Australian Capital Territory	282045	259927	92.16
Northern Territory	133129	105190	79.01

Table 5. Measures of Voter Disillusionment 2016 Federal Election – Informal Votes

State/Territory	Formal	Informal	Voter Turnout	Percent Informal
New South Wales	4364320	287079	4651399	6.17
Victoria	3440654	172169	3612823	4.77
Queensland	2671229	131722	2802951	4.7
Western Australia	1338337	55669	1394006	3.99
South Australia	1040736	45435	1086171	4.18
Tasmania	335623	13926	349549	3.98
Australian Capital Territory	252742	7185	259927	2.76
Northern Territory	97460	7730	105190	7.35

The effect of inequality on democracy is a vicious cycle – the more people feel un-empowered the less they will trust and participate and hence the less they will be heard in the future. A similar vicious cycle occurs with respect to equality of opportunity and equality of outcomes. The less opportunity there is for moving up the inequality ladder, the less likelihood there is that persons in a position of power will fully appreciate the level of inequality that exists and hence the less likely it is that inequality will be addressed. This cycle probably explains the inequality of outcomes data that we briefly surveyed earlier, as well as the importance of addressing inequality of opportunity as soon as possible.

⁴ Another indication of political disenfranchisement is to make a survey of politicians from low socio-economic backgrounds, politicians from the ranks of the voting-aged youth, politicians from various minority groups, and compare this to the wider population.

Sources of Inequality

Inequality is principally the result of ‘long-term trajectories of policies and institutional development’ (Sellers et al., 2017, p. 271; see also, Acemoglu et al. 2002; Pike et al. 2007; Beer, 1994) and policies and institutions are arbitrated largely through the political process. Therefore if there is inequality at a regional level we can probably trace much of its source back to political inequality (Stiglitz, 2013; Acemoglu and Robinson, 2000).

There are three main sources of inequality in political power in the Australian federation. First, because electoral boundaries are associated with population, and because population is concentrated in greater capital cities, it follows that there are more political representatives from greater capital cities in the two tiers of Australian parliaments, then there are from, for instance, rural and remote areas (Parliament of Australia, 2018). Second, due to the combination of geographically defined electoral boundaries and preferential voting systems the proportion of the votes that a party attracts (which can be considered a reflection of political preferences) is not reflected in the number of seats that the party receives in the lower house. For instance, in the 2016 Federal election the Greens (nationally) received around 10% of the vote, but received just 0.7% of the lower house seats; conversely the Liberal party attracted approximately 29% of the vote and initially received almost 39% of the seats (Australian Electoral Commission, 2016). When these two sources of inequality in political power are considered together it suggests that the political preferences of the voters who constitute regions are not being reflected in the make-up of the lower houses of Parliaments⁵. Third, all Australians do not have equal access to Ministers. Constituents who live in the electorate of a Minister have greater access than those who do not; and a number of recent high profile cases have shown us that political donors and lobbyists have greater access to Ministers than regular constituents. Indeed, there is good reason to believe that foreign powers have greater access to Ministers and shadow-Ministers than the regular Australian constituent (ABC, 2017)! The point is that it may be one vote one value in rhetoric, but it is impossible to argue that it is one vote one value in actual fact – specifically, it is those at the top of the inequality ladder, who are likely to be wielding the greatest power in Australia’s political system, just as it is the top 1% that have the political power abroad (Stiglitz, 2013).

Most of the spatial manifestations of inequality – access to natural resources, access to infrastructure and institutions, access to non-public goods and services – have their origins, or could be mitigated, through the political process. We now consider each one in turn in order to provide a level of explication that is conducive to outlining specific and efficacious public policy remedies in our concluding section (which follows).

As noted earlier, inequality can be seen in inequitable access to natural endowments (such as water, minerals, clean air; see Sellers et al. 2017; Acemoglu et al. 2002). Not only are natural resources spatially distributed, but the problem of unequal access is further compounded by policies that regulate the consumption of resources (for example, water

⁵ This is not the case for the Upper House so much (although federally it is constrained by state/territory geographic fragments), which probably explains the diversity of political parties in the Senate.

controls, logging controls, bans on coal seam gas (CSG) extractions). The irony of the situation in Australia is that the political interests regulating the consumption of natural resources generally hail from regions far removed from where the effects of the constraint will bite. For instance, only one of the Green's federal parliamentarians – who have a range of party policies constraining use of natural resources – lists their political office outside of Canberra or a Greater Capital City (Greens, 2018).

Another aspect of inequality is unequal access to public goods and services. For example, infrastructure often varies by region and, as we have noted earlier, properties outside of towns in rural and remote areas generally do not have access to hard infrastructure such as town water, sewer services, and sealed roads. Also it is often the case that reliable grid electricity, and telecommunications are not available to rural and remote residents. Notably, all urban areas have access to this sort of infrastructure, including regions on the urban fringe which have previously captured most of the attention by those concerned about regional equality. Similarly, institutions are distributed spatially. Access to police, schools (particularly high schools), tertiary campuses, Courts (particularly higher courts), hospitals, government aged care facilities and a host of other critical institutions are either not available within reasonable commuting distance (for rural and remote regions), or are available at a standard that is less than desirable (particularly for some urban fringe regions). This has obvious implications for consumption of many important public goods and services (Sellers et al. 2017), but also has oft overlooked implications for regional economies (Grant and Drew, 2017). We have already noted disparities in typical incomes which coincide with capital cities in each state and territory and the Australian Capital Territory (ACT). It is probably no coincidence that the bulk of the state and territory public servants are located in these capital cities, and the largest portion of federal public servants are located in the ACT (see Table 7). Public servants attract good wages and security in employment that may not exist for many other sectors and decisions about where public servants are located therefore have significant impacts on local economies (for example, Table 7 provides details of a \$7.3b contribution to the ACT economy through Federal public servant location choice). Moreover, because the funds to pay public servants are also derived from areas outside of the capital cities it essentially results in the export of capital from some rural and remote regions (especially where mining royalties and taxes go into consolidated revenues) to capital cities and the ACT (Grant and Drew, 2017).

Table 7. Number and Salaries of Public Servants, Australia 2016-17.

		Employees		Cash wages and salaries	
		Commonwealth government	State government	Commonwealth government	State government
		'000	'000	\$m	\$m
New South Wales	2016				
	-17	53.4	469.1	4,582.8	35,913.9
Victoria	2016				
	-17	46.3	358.3	3,948.9	26,569.6
Queensland	2016				
	-17	28.6	322.3	2,284.0	25,526.5
South Australia	2016				
	-17	14.8	115.8	1,284.5	9,014.0
Western Australia	2016				
	-17	12.3	171.9	948.4	14,404.3
Tasmania	2016				
	-17	5.2	n/a	406.4	n/a
Northern Territory	2016				
	-17	4.1	27.1	319.4	2,515.0
Australian Capital Territory	2016				
	-17	75.0	n/a	7,299.1	n/a
Australia	2016				
	-17	239.8	1,527.6	21,073.4	119,000.6

Source: ABS, 2017.

Access to markets is also spatially distributed, and hence opportunities to consume non-public goods. Specifically, a form of market failure associated with the size and density of population, means that it is often not economically viable to have a physical presence in many rural and remote communities. Lack of a physical presence can sometimes be mitigated through technology (if residents have access to reliable telecommunications), although there is a price to pay (in choice and consumer satisfaction, but also importantly in the cost to have the good posted – and the cost required to pick up the goods (many rural communities do not receive postal services and have to travel to the nearest Post Office, which can be a considerable distance away, to pick up the goods despite the fact that they pay at least the same rate of freight as do residents in urban areas who receive delivery to their door⁶)). However, sometimes there can be no mitigation for market failure – where a physical presence is an absolute imperative (such as for Post Offices, and Banks (particularly for businesses that need to deposit or withdraw cash to facilitate transactions)) – and residents are either left to travel hundreds of kilometres to consume essential services, or governments (generally local government) are forced to step in and operate (and hence bear the cost) of an economically inefficient business (see, for example, Drew and Campbell, 2016).

One way that government redistributes income and wealth is through the taxation system and it is therefore important to briefly depart from our consideration of manifestations of spatial inequalities to also reflect on how taxation can mitigate or exacerbate regional inequality. A few examples will help explicate this point. For instance, take the Goods and Services Tax (GST) which is levied on fuel (and many other items). The tax per litre of fuel that is paid by persons varies considerably according to the region in which one buys the fuel (see Appendix

⁶ Australia Post, who has a monopoly in letter delivery and a very large footprint in parcel delivery is a wholly owned entity of the Australian federal government.

B). Typically fuel in rural and remote areas costs considerably more than it does in urban areas (moreover, public transport in rural and remote areas is practically non-existent and vast distances must be travelled to do one's shopping or take one's children to school, hence relative consumption of fuel in rural and remote areas will typically be higher). Because the GST is levied on the purchase price, this means that persons living in some areas (particularly rural and regional areas) tend to pay a higher quantum of GST per litre of fuel, than do their fellow citizens in urban areas (it is important to note that this also varies on a state and territory basis). To further complicate matters and introduce more inequality, certain 'off-road' industries (agriculture and mining which seem to have converted political power into rents) receive credits for fuel tax excise, and most businesses can claim back GST inputs. Notably the situation relating to GST on fuel also relates to most goods that attract the tax – due to transport costs, market size, and market competition, prices for the majority of goods in rural and remote areas (when they are available) are generally higher, which means the tax paid for exactly the same item is often higher in rural and regional areas. Another example can be found in the exemptions (for the family home) and discounts on capital gains tax (50% for individuals) which essentially mean that persons who earn income through capital gains on the family home or speculation receive disproportionate nett gains. Once again, because income and wealth are spatially distributed – as is, critically, capital gains on the house values – regional inequality in the impost of taxation, and granting of exemptions and concession on taxation, follows. Further inequitable rates of taxation also become clear when one considers business (particularly owner-operator small business)) relative to wage earners. In sum, the way taxation is levied in Australia results in spatial distribution of imposts (and taxation discounts and exemptions) so that the tax system 'while nominally progressive, is much less progressive than it seems' (Stiglitz, 2013, p. 343).

It is also important to briefly reflect on the role of demographic spatial distributions on inequality. Population density, population growth, ethnic polarisation, socio-linguistic integration, age structure, education and welfare transfers are all spatially distributed and all have been identified as determinants of inequality (Rodriguez-Pose, 2013; Crenshaw, 2010; Breau, 2015). However, it is likely that there is a good deal of endogeneity between institutions and demographic spatial distributions; Rodriguez-Pose, 2013), as we have already alluded to. Moreover, there does not appear to be any empirical analysis of the determinants of inequality in an Australian context, and this is a significant gap in the literature that must be addressed if we are to understand regional inequality better in this country.

Options

Putnam (2000, p. 413) in his seminal analysis of the collapse and revival of American community calls for “‘social-capital impact statements’ for new programs [that are] less bureaucratic and legalistic than environment impact statements have become, but equally effective at calling attention to unanticipated consequences’ as a mechanism to help reverse the trend of increasing disconnectedness from social structures. A similar case could be made for equality statements to be mandatory for major policy and institutional change – especially given the clear inequality in the Australian political system, evidence of less than satisfactory levels of inequality (which, in the case of wealth at least, appear to be at an alarming level), and the likelihood that extant inequalities in both will give rise to further exacerbation of inequalities of opportunity in the future. Requiring policy and institutional changes to be accompanied by an equality statement would focus attention on the problem and provide a level of transparency (and information) relating to decisions that is not currently available to citizens and the media. Moreover, explicit consideration of equality outcomes arising from policy and institutional change would provide an important counter-weight to the dominant form of political decision-making (business case analysis that will almost always be biased in favour of densely populated regions due to economies of size and density). The emphasis of such equality statements should be on equality of opportunity (because this is the most desirable end-state), although some attention must be given to equality of outcomes given the close links that it has to opportunity.

Similarly an annual report on inequality in Australia, compiled by an appropriately resourced department (hopefully located in a region of inequality) tabled before Parliament on an annual basis would also serve to put the issue in the spotlight. Moreover, a requirement of this kind would hopefully result in more comprehensive and sophisticated metrics being collated and disseminated (for example, the ABS has advised that they do not keep metrics on the number of public servants and salaries of same, at a level lower than States/Territories). This would address the barriers that currently exist to conducting research, so that we can better understand the causes and potential solutions to higher than desired levels of inequality.

The major sources of regional inequality, that we explicated on above, can also provide a good guide to some additional, more refined and targeted measures to address the problem (assuming we don’t wish to see rising, and indeed accelerated, inequality that would occur if we were to take a Tieboutian approach to the matter (do nothing and let people vote with their feet; Sellers et al., 2017)).

Because a good deal of inequality arises as a result of inequality in political power (and moreover, because inequality is likely to have to be mitigated through a political means) it is important that priority be given to measures which might reduce political inequality (although we acknowledge that some of these measures would be difficult to implement). First, there is a clear case for publicly funded political campaigns to reduce the disproportionate power of political donors and lobbyists (Stiglitz, 2013). The rents extracted by these groups mean that

the public ultimately pay for political donations in any case, so publicly funding political campaigns simply makes the real cost more transparent (and can cap the cost – which can't currently be achieved because we don't know the rate of return that political donors are getting on their investment). Secondly, we can further regulate the activities of lobbyists, and movements of politicians (particularly Ministers) into and out of lobbyist ranks (and the corporations that they represent). Third, we can encourage political parties to be more aware of inequalities in political representation by requiring that the aforementioned equality statement also includes a statement on the representativeness of our legislatures. Fourth, there is a clear need for an anti-corruption commission to be established at a federal level, and for the powers of Commissions in all jurisdictions to be commensurate with the seriousness of the problems (particularly rent-seeking). Other reforms, such as the need to ensure regional equality in how electorate boundaries are designed, removing preferential voting, or even moving to an at large system of representation (which would eliminate regional political inequality entirely) face substantial obstacles and probably will never be implemented (although it is easy to argue that they should be). The point is that we have to start somewhere and making changes to the funding of campaigns and parties, the power of lobbyists and drawing attention to inequality in representation is something that can be done to try to mitigate some of the large inequalities that currently pervade the Australian system of government.

With respect to inequality, in the ability to consume natural resources, it would seem important to ensure that the burden of constraints are transparent (hence the need for equality statements) and internalised by all regions (especially where some regions push for constraints which effects would otherwise not be felt by them). Typically, in economics, it is argued that a Coasian solution is the most efficient way of dealing with such problems – specifically, in the absence of transaction costs, the most efficient outcome will result if parties can bargain to solve the problem of externalities. Because government can enforce bargains and has sufficient scale to minimise transaction costs, government is in the best position to find efficient solutions to constraints that they may wish or need to impose on rural and remote communities (in particular) in pursuit of national objectives.

Inequitable infrastructure is also a problem that will benefit from transparency arising from inequality reporting. Few residents of urban areas (and few politicians it seems) are aware of the fact that their rural peers live mostly with worse infrastructure than many developing nations provide for their citizens (although most people know that infrastructure in remote areas is deplorable). Merely getting the issue into the spotlight will be a great advance on the current state of affairs (people in Sydney might be concerned less with their billion dollar sport stadium upgrades if they knew that a few hundred kilometres away residents didn't have town water, sealed roads or sewer services). The infrastructure inequality can't be addressed quickly (if at all) simply because the backlog is so great, however, improving the system of grants made to local government and state governments – which are supposed to facilitate horizontal fiscal equalisation but fall well short of this lofty goal due to flawed

allocation models and legislation⁷ – would be a significant step forward (see, for example Grant and Drew, 2017; Drew and Campbell, 2016; Drew and Dollery, 2015). It has also been suggested in the literature that decentralising government goods and service provision, combined with consolidation could also result in greater equality (see, for example Wei, 2015), although this is unlikely to be a practical solution given Australia's Constitution.

Similarly, inequitable access to critical institutions would have a spotlight cast on it, were annual reporting of regional inequality implemented. In some instances, institutions could be relocated to provide for more regional equity in access – although this would be viable in only a limited number of cases. Investment in technologies and changes to policies to allow people greater access services through technology, would help in some other instances. However, in most cases inequality in access to institutions can probably not be directly mitigated, certainly not in the short term. If this is the case, then some form of transfer from those who benefit disproportionately through access to institutions to those who are unable to access institutions would be one way of dealing with the problem.

Inequitable access to market goods can also be partially addressed by ensuring that all Australians have access to reliable telecommunications. However, it would also seem to be important to ensure that freight charges are subsidised or regulated to reduce the deleterious effect on spending capacity when market failure dictates access of this kind. It is also critical that where lower tiers of government are forced to operate businesses to address market failure at a loss, that this burden is specifically addressed through additional allocations in horizontal fiscal equalisation inter-governmental grant transfers (present allocations only consider 'standard' costs for providing 'regular' local government services).

The annual statement of inequality should also draw attention to how taxation imposts, concessions and exemptions are spatially distributed. Beyond increasing the level of transparency – which would do much to dispel the myth of progressive taxation – governments can also make changes to taxation policy to address extant inequality. Thus changes could be made to existing exemptions, rates of taxation and concessions, although these will all have implications for the economy (some of which would not be tenable). Better still, transfers can be made to try to equalise effective rates of taxation, or a combination of both approaches could be made. Specific attention should be paid to how the GST is spatially distributed and also how the fuel taxes are levied (especially on communities that do not have access to public transport). The important thing, once again, is to expose inequality in the taxation system, mitigate same wherever possible, and ensure that future policy changes do not exacerbate extant inequality (which they are likely to do given the level of political inequality).

In summary, 'every law, every regulation, every institutional arrangement has distributive consequences' (Stiglitz 2013, p. 66). The first step in dealing with regional inequality is to admit that profound regional inequality does exist, to collect the data, and get the issue onto

⁷ The idea that some regions could catch up, when all regions get a minimum payment, defies simple logic.

the political agenda (encapsulated in our plea for an annual regional inequality report). Although this is probably the easiest of the remedies that we have outlined, it is probably also the step at which the political class will balk at (because it implicitly acknowledges the role of politics in establishing or failing to mitigate extant inequality). However, if we are to avoid the deleterious outcomes associated with ever increasing levels of inequality – housing affordability crises, inefficient use of human resources, inefficient migration of capital and labour, political disillusionment, destructive rent-seeking and civil disobedience – then the step must be taken.

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Appendix A. Regional Inequality

Region	Median	Mean	P80/P20	Gini	Top 1%	Top 10%
Capital Region	44,110	54,054	4.84	0.457	6.7	30.2
Central Coast	43,677	53,716	4.72	0.452	7.1	30.4
Central West	43,834	54,112	5.04	0.465	6.7	30.5
Coffs Harbour - Grafton	37,017	45,249	5.51	0.478	7.5	31.5
Far West and Orana	43,739	51,765	4.82	0.468	6.6	29.7
Hunter Valley exc Newcastle	45,556	58,769	5.25	0.473	7.6	31.5
Illawarra	46,554	58,168	5.15	0.456	6.5	30.1
Mid North Coast	35,997	44,288	6.18	0.489	7.4	32.0
Murray	42,086	50,933	4.90	0.464	7.6	31.0
New England and North West	40,516	48,321	5.41	0.495	8.0	31.9
Newcastle and Lake Macquarie	47,165	58,968	5.01	0.462	7.5	31.3
Richmond - Tweed	37,275	46,738	5.25	0.483	8.3	32.7
Riverina	44,408	52,356	4.41	0.441	6.8	29.4
Southern Highlands and Shoalhaven	38,935	50,939	5.40	0.493	9.2	33.9
Sydney - Baulkham Hills and Hawkesbury	51,858	70,368	5.40	0.498	9.8	34.8
Sydney - Blacktown	49,089	54,354	3.86	0.389	4.7	25.5
Sydney - City and Inner South	52,586	72,791	5.24	0.508	12.5	37.0
Sydney - Eastern Suburbs	59,999	99,522	5.61	0.581	17.4	45.7
Sydney - Inner South West	43,307	53,375	4.50	0.450	7.2	30.5
Sydney - Inner West	53,105	74,345	5.28	0.505	10.4	36.4
Sydney - North Sydney and Hornsby	60,040	98,675	6.50	0.575	14.7	43.7
Sydney - Northern Beaches	53,061	82,046	5.55	0.545	13.5	40.9
Sydney - Outer South West	49,375	56,337	3.88	0.400	5.5	26.7
Sydney - Outer West and Blue Mountains	49,470	56,820	4.11	0.410	5.8	27.1
Sydney - Parramatta	44,029	52,343	4.57	0.434	5.7	28.5
Sydney - Ryde	50,837	71,573	5.76	0.519	11.2	37.1
Sydney - South West	45,075	51,510	3.95	0.404	5.4	26.9
Sydney - Sutherland	52,884	69,158	4.79	0.475	9.3	33.5
Ballarat	42,208	50,393	4.74	0.453	7.3	30.1
Bendigo	42,223	50,450	4.89	0.453	6.9	30.1
Geelong	44,113	55,327	4.90	0.466	8.0	31.9
Hume	41,140	48,008	4.72	0.445	6.4	28.9
Latrobe - Gippsland	40,298	51,015	5.28	0.475	6.5	31.7
Melbourne - Inner	54,176	76,349	5.09	0.515	13.1	38.3
Melbourne - Inner East	49,512	76,902	6.40	0.557	12.7	41.0
Melbourne - Inner South	53,035	77,958	5.45	0.529	12.2	39.1
Melbourne - North East	46,982	56,915	4.37	0.440	7.1	30.0
Melbourne - North West	45,421	53,652	4.24	0.428	6.2	28.7
Melbourne - Outer East	46,139	55,815	4.56	0.444	6.7	29.9
Melbourne - South East	43,878	51,562	4.27	0.430	6.4	29.0
Melbourne - West	46,964	53,989	4.07	0.411	5.5	27.4
Mornington Peninsula	43,979	54,752	4.51	0.460	8.3	31.9
North West	39,202	45,080	5.09	0.464	6.1	29.4
Shepparton	40,160	46,874	4.73	0.453	6.7	29.4
Warrnambool and South West	40,448	48,236	4.89	0.457	6.7	29.9
Brisbane - East	49,737	61,800	4.40	0.449	7.4	31.2
Brisbane - North	51,527	61,506	4.34	0.432	6.5	29.3
Brisbane - South	47,443	59,862	4.95	0.467	8.0	32.1
Brisbane - West	53,307	74,611	5.76	0.520	10.8	37.3

Brisbane Inner City	55,557	82,994	5.48	0.533	12.3	39.8
Cairns	42,343	51,684	4.59	0.451	6.7	30.5
Darling Downs - Maranoa	39,272	46,708	5.56	0.504	7.0	31.6
Central Queensland	52,917	69,029	5.48	0.476	6.4	30.9
Gold Coast	42,720	54,948	4.50	0.471	8.8	33.1
Ipswich	46,527	52,011	3.99	0.404	5.2	26.5
Logan - Beaudesert	45,567	51,340	3.80	0.400	5.2	26.7
Mackay - Isaac - Whitsunday	51,214	66,298	5.33	0.465	6.0	30.0
Moreton Bay - North	42,981	50,763	4.55	0.440	6.2	29.4
Moreton Bay - South	50,772	60,132	4.17	0.428	6.2	29.1
Queensland - Outback	47,846	57,715	5.19	0.487	6.2	29.6
Sunshine Coast	40,014	52,565	5.29	0.489	8.2	33.7
Toowoomba	45,425	54,194	4.59	0.447	6.9	29.9
Townsville	50,066	58,597	4.16	0.426	6.3	28.5
Wide Bay	37,111	45,701	5.93	0.487	6.7	31.6
Adelaide - Central and Hills	49,857	69,319	5.14	0.508	10.6	37.0
Adelaide - North	45,038	49,772	3.80	0.393	5.0	25.8
Adelaide - South	46,411	55,513	4.34	0.438	7.1	29.8
Adelaide - West	46,216	54,567	4.23	0.427	6.5	28.9
Barossa - Yorke - Mid North	42,397	52,049	4.95	0.467	7.0	31.2
South Australia - Outback	48,334	59,080	4.95	0.447	5.3	28.7
South Australia - South East	38,594	45,709	4.97	0.463	6.8	30.4
Bunbury	46,024	61,680	5.60	0.485	7.0	32.0
Mandurah	48,157	66,356	6.23	0.491	6.9	32.2
Perth - Inner	61,685	104,690	7.07	0.582	13.4	44.1
Perth - North East	52,743	63,991	4.41	0.438	6.3	29.6
Perth - North West	53,500	68,776	4.77	0.462	7.5	32.0
Perth - South East	51,806	64,772	4.72	0.454	7.1	31.2
Perth - South West	55,180	72,751	5.16	0.477	8.1	32.9
Western Australia - Wheat Belt	45,573	60,348	5.58	0.493	6.8	33.0
Western Australia - Outback (North)	70,392	84,374	5.13	0.434	5.3	27.4
Western Australia - Outback (South)	52,825	66,098	5.18	0.453	5.9	28.9
Hobart	45,427	54,569	4.29	0.440	7.7	30.3
Launceston and North East	41,811	50,065	4.56	0.451	7.3	30.4
South East	36,927	44,407	5.32	0.474	7.5	31.2
West and North West	41,816	49,216	4.78	0.440	6.2	28.7
Darwin	60,572	71,185	3.74	0.412	6.5	28.9
Northern Territory - Outback	51,797	59,232	4.21	0.411	5.4	26.9
Australian Capital Territory	61,482	70,804	4.00	0.416	6.5	28.4
Other Territories	69,841	69,307	5.08	0.390	3.7	23.0

Appendix B

At 1100 on the 18th of April, *Fuel Check* reported the following price for Unleaded 91 fuel at Caltex fuel stations:

Table 6. Fuel Price Survey New South Wales, 2018.

Suburb	Price (cents)	Suburb	Price (cents)
Wentworth (median weekly household income \$2,380; near Sydney)	141.9	Cobar (median weekly household income \$1,495; remote rural NSW)	147.9
Tamworth (median weekly household income \$1,180; rural NSW area)	149.9	Seven Hills (median weekly household income \$1,551; near Sydney)	139.9